CLAIMS

WHAT IS CLAIMED:

1.   A method, comprising:

determining a first fault in a first processing tool executing under first operating

conditions;

determining a second fault in a second processing tool executing under second

operating conditions; and

identifying a possible source of the second fault based on at least the first operating

conditions of the first processing tool.

2.   The method of claim 1, further identifying the possible source of the second

fault based on a comparison of at least one of the first operating conditions of the first

processing tool and at least one of the second operating conditions of the second processing

tool.

3.   The method of claim 1, further comprising:

receiving configuration information associated with the first processing tool; and

receiving configuration information associated with the second processing tool.

4.   The method of claim 3, wherein identifying the possible source of the second

fault comprises comparing at least a portion of the configuration information associated with

the first processing tool with at least a portion of the configuration information associated

with the second processing tool and determining a common configuration element between

the first and second processing tools.

5.   The method of claim 1, further comprising determining a source of the second fault based on determining at least one of an error in common resource supply to the first and second processing tools and a common undesirable ambient condition proximate the first and second processing tools.

6.   The method of claim 1, further comprising determining if the first and second faults occurred within a preselected time of each other.

7.   The method of claim 1, wherein determining the second fault comprises:

receiving operational data from the second processing tool related to the manufacture of a device; and

comparing the received operational data with a previously established fault model data.

8.   An apparatus, comprising:

an interface; and

a control unit communicatively coupled to the interface, the control unit adapted to:

       detect a first fault in a first processing tool;

       detect a second fault in a second processing tool; and

       determine a cause of the second fault based on detecting the first fault.

9.   The apparatus of claim 8, wherein the interface is adapted to receive at least one of a fault indication and operational data from the first processing tool and the second processing tool.

10. The apparatus of claim 9, wherein the control unit is adapted to detect the first fault and the second fault based on the operational data received from the first and second processing tools.

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11. The apparatus of claim 8, wherein the control unit is adapted to detect the first fault and the second fault based on configuration information stored in a fault detection and analysis system.

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12. The apparatus of claim 8, wherein the control unit is adapted to determine that the cause of the first fault is an error in delivering a resource to the first processing tool.

13. The apparatus of claim 8, wherein the control unit is further adapted to perform a corrective action in response to determining the cause of the second fault.

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14. The apparatus of claim 13, wherein the corrective action comprises notifying a system administrator of the determined cause of the second fault.

15. The apparatus of claim 8, wherein the control unit is further adapted to:

20   receive operational data from the second processing tool; and

compare the received operational data with fault model data.

16. The apparatus of claim 15, further comprising a sensor for sensing and providing the operational data to the interface.

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17.   An article comprising one or more machine-readable storage media containing instructions that when executed enable a processor to:

determine that a fault condition exists in a first processing tool;

determine that a fault condition exists in a second processing tool; and

5   determine if the fault condition in the second processing tool has a common cause as the fault condition in the first processing tool.

18.   The article of claim 17, wherein the instructions when executed enable the processor to determine a common configuration element between the first and second processing tools.

19.   The article of claim 17, wherein the instructions when executed enable the processor to receive configuration information of the first and second processing tools.

20.   The article of claim 17, wherein the instructions when executed enable the processor to determine that the common cause is at least one of a faulty resource supply or undesirable ambient condition common to the first and second processing tools. .

21.   The article of claim 17, wherein the instructions when executed enable the processor to perform a corrective action in response to determining that the fault condition in the second processing tool has a common cause as the fault condition in the first processing tool.

22.   The article of claim 21, wherein the instructions when executed enable the processor to notify a system administrator in response to determining that the fault condition

in the second processing tool has a common cause as the fault condition in the first processing tool.

23.   The article of claim 17, wherein the instructions when executed enable the processor to:

receive operational data from the second processing tool related to the manufacture of

a processing device; and

compare the received operational data with a fault model data.

24.   A system, comprising:

a first processing tool adapted to process a semiconductor device;

a second processing tool adapted to process the semiconductor device; and

a fault detection and analysis unit adapted to:

determine that a fault condition is present in the first and second processing

tools; and

determine if the first and second processing tools have at least one common

configuration element in response to determining that the fault

condition is present in the first and second processing tools.

25.   The system of claim 24, wherein the common configuration element is a resource supply provided to the first and second processing tools.

26.   The system of claim 24, further comprising a framework adapted to communicatively couple the first and second processing tools to the fault detection and analysis unit.

27.   The system of claim 24, wherein the fault detection and analysis unit is further adapted to perform a corrective action in response to determining the cause of the second fault.

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28.   The system of claim 24, further comprising a storage unit to store configuration information of the first and second processing tools and wherein the fault detection and analysis unit determines that the common cause is due to a configuration element common to the first and second processing tools.

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29.   The system of claim 24, further comprising at least one sensor for sensing and providing operational data of the first and second processing tools to the fault detection and analysis unit.

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30.   The system of claim 24, wherein the fault detection and analysis unit is further adapted to:

receive the operational data; and

compare the received operational data with a fault model data for each of the first and second processing tools.

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31.   The system of claim 24, wherein the fault detection and analysis unit determines that the common cause is an undesirable ambient condition that was common to the first and second processing tools on or about the times the fault conditions occurred.

32.   An apparatus, comprising:

an interface; and

a control unit communicatively coupled to the interface, the control unit adapted to:

       detect a fault in a first processing tool; and

5   determine that the detected fault is due to an error in delivering a resource

supply to a second processing tool.

33.   The apparatus of claim 32, wherein the control unit determines that the first

processing tool also receives the resource supply.

34.   An apparatus, comprising:

an interface; and

a control unit communicatively coupled to the interface, the control unit adapted to:

       detect a fault in a first processing tool, wherein the fault occurs at a first time

            at a first location;

       detect a fault in a second processing tool, wherein the fault in the second

            processing tool occurs at a second time at a second location; and

       determine a possible cause of the faults in the first and second processing tools

            based on the proximity of the first and second times or the proximity of

20   the first and second locations.

35.   The apparatus of claim 34, wherein the control unit determines the possible

cause based on at least one common configuration between the first and second processing

tools.

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36.   The apparatus of claim 34, wherein the second processing tool is downstream relative to the first processing tool.

37.   The apparatus of claim 34, wherein the fault in the first processing tool occurs

5   at substantially the same time as the fault in the second processing tool.